UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
ENVIRONMENTAL CLEANUP

January 12, 2012

Mr. Bob Wyatt
NW Natural
220 NW 2nd Avenue
Portland, Oregon 97209

Sent via email only

Mr. Tom McCue
Siltronic Corporation
7200 NW Front Avenue, M/S 20
Portland, Oregon 97210-3676

Re: Response to EPA Comments on Engineering Evaluation/Cost Analysis Technical Briefing Presented on October 19, 2011 – Gasco Sediments Site, Portland Harbor Superfund Site, Administrative Settlement Agreement and Order on Consent for Removal Action (Order; Docket No. CERCLA 10-2009-0255)

Dear Sirs:

EPA has reviewed the December 23, 2011, letter prepared by Anchor QEA presenting NW Natural's and Siltronic Corporation's (Siltronic's) response to comments regarding EPA's November 28, 2011 letter providing comments on the October 19, 2011 Engineering Evaluation/Cost Analysis (EE/CA) Technical Briefing. EPA's review of the comment response is presented in the attached table. The comment letter is approved contingent on NW Natural and Siltronic Corporation incorporating EPA's responses presented in the attached table into the draft EE/CA and Data Report.

EPA approves the proposed draft EE/CA and Data Report submittal date of 120 days from the date of this letter. This letter also serves to modify the schedule in the Statement of Work for the Administrative Settlement Agreement and Order on Consent for Removal Action to incorporate this submittal date.

Please let me know if you have any questions or concerns at (206) 553-1220 or via email at Sheldrake.sean@epa.gov.

Sincerely,

Sean Sheldrake, RPM

Enclosure

Cc:
Kristine Koch, EPA *via email only*

650996

Chip Humphrey, EPA
Mark Ader, EPA
Dana Bayuk, ODEQ

Comment No.	EPA Comments dated November 28, 2011	NW Natural and Siltronic Response dated December 23, 2011	EPA Review
	General Comments		
1	NW Natural and Siltronic Corporation must consider removal for all alternatives. Any non-removal scenario must consider the costs of restrictions on the considered structures, potential financial assurance requirements, costs associated with demolition of the structure and remediation of sediments at the end of the structures' life, and all costs associated with operation, maintenance and monitoring of alternative remedial measures that achieve equivalent protectiveness to human health and the environment as removal, through the assumed life of the structures. The slide titled *SubSMA Development and Preliminary Technology Screening* (page 21 of 22) indicates that under structure areas will not be considered for removal. There must be a removal scenario (with or without containment) included in the EE/CA that adequately addresses risk.	In accordance with the SOW, the Portland Harbor FS, and EPA guidance on the preparation of non-time critical removal actions, the draft EE/CA and Data Report will screen available remedial technologies throughout the identified sediment management areas (SMAs) within the Project Area and then assign these technologies in the various remedial alternatives. This technology screening will include removal technologies as well as capping, treatment, enhanced monitored natural recovery (EMNR) and MNR, and the alternatives will be assembled based on the ability of these technologies to adequately address unacceptable risk to human health and the environment within the SMAs. Cost and implementability issues created by the integration of structures (whether removed, replaced, or maintained in place) with successful and effective implementation of each technology will be addressed in the EE/CA.	The response is acceptable with the following qualifying text. The Response states that the draft EE/CA and Data Report will screen available remedial technologies, including removal, throughout the identified sediment management areas and that cost and implementation issues associated with structures will be addressed in the EE/CA. Consistent with EPA guidance, when screening process options, implementability is used as an initial screen to eliminate technologies that are clearly ineffective or unworkable. Further, consistent with EPA guidance, cost plays a limited role in the screening of process options. As a result, EPA expects that removal technologies will be retained at the screening stage and that evaluation of cost and implementability will be considered in the analysis of removal action alternatives in the draft EE/CA.
2	The areas delineated with substantial product do not include data points designated as containing substantial product (samples ending in 18SB, 20SB and 23SB) off the U.S. Moorings property (Figure 8 - *Summary of Presence of Substantial Product*). Further, this area is not bounded by samples with no substantial product. The boundary line at this location appears to coincide with the downstream property boundary of the Gasco site and is not a reflection of the probable extent of contamination from the Gasco site. The area containing these samples and bounded by a reasonable estimate of the downstream extent of contamination from the Gasco site must be considered as part of the Draft EE/CA, either separately or as a part of the areas presented in the technical briefing.	As noted in the EE/CA Technical Briefing, all data presented were preliminary and potentially subject to change. The draft EE/CA and Data Report will re-evaluate in detail all cores for the potential presence of substantial product within the larger Gasco Sediments Site Area of Interest, which includes the referenced area just offshore of the U.S. Moorings property. All cores containing visual signs of contamination that meet the SOW definition of the presence of substantial product within this area will be identified and the uncertainty of any such identifications will be discussed. From these data, the boundary of substantial presence of product will be developed as described in the SOW.	Response is acceptable.
3	The Draft EE/CA must screen the data according to all of the current and relevant lines of evidence (LOE) from the harbor-wide human health and ecological risk assessments. The Draft EE/CA must specify all contaminants of concern and LOEs considered and utilize all available data as the basis for the screening. The screening must further identify areas that meet principal threat and/or hot spot[1] criteria in accordance with federal guidelines and state regulations. This includes using a mean quotient (MQ) of 0.7, not 0.85, in delineating the extent of benthic impacts.	The draft EE/CA and Data Report will be prepared in accordance with the Portland Harbor-wide human health and ecological risk assessments as well as the additional points made in this comment.	Response is acceptable.

[1] Oregon Administrative Rules 430-122-0115(32) http://www.arcweb.sos.or.us/pages/rules/oars 300 oar 340/340 122.html accessed November 14, 2011.

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4	The Draft EE/CA must describe the 2005 tar body removal and capping project, describe the areas addressed and those not addressed by the work and describe the nature of ongoing impacts from the non-remediated portions of the tar body. Areas of remaining tar, below and downriver of the FAMM dock, should be clearly delineated on site figures.	The draft EE/CA and Data Report will be prepared in accordance with this comment.	Response is acceptable.
5	The depth of impact presented in Figure 11 - *PH RAL Depth of Impact Exceedances* and Figure 12- *Comparison of PH RAL and Substantial Product Depth of Impact Exceedances* seems to indicate that contamination may extend off shore beyond the "Expanded EE/CA Remedial Footprint" (blue line). Although the depth of impact (DOl) is 0' along the offshore boundary in the upstream half of the Expanded EE/CA Remedial Footprint, the DOl is 6- 12' along the offshore boundary in the downstream end of the Expanded EE/CA Remedial Footprint. Reasonable estimates of the furthest extent of contamination emanating from the Gasco site must be considered as part of the Draft EE/CA. The evaluation should consider whether actions are necessary to address subsurface contamination along the offshore margin to ensure protectiveness of human health and the environment. These areas can be considered separately or by expanding the areas presented in the technical briefing.	As presented in the EE/CA Technical Briefing, the draft EE/CA and Data Report will include a buried contamination analysis that will be performed consistent with the Portland Harbor FS procedures. The Project Area boundary will be adjusted as necessary to include any areas that present a reasonable potential future risk associated with site-related chemicals of concern (COCs) present in subsurface sediment.	Response is acceptable.
6	In general, the boundary lines presented in the figures are based on an interpretation of the data that does not adequately take into account uncertainties associated with contaminant distribution and heterogeneity of the sediments. Further, the use of computer algorithms to generate Theissen polygons must be balanced with professional judgment to develop appropriately conservative remediation prisms for development and analysis of remedial alternatives. NW Natural and Siltronic Corporation should use and document best professional judgment in developing the remediation areas and prisms used as the basis for analysis of remedial alternatives. These areas and prisms should consider appropriate limitations of available remedial/removal technologies and state all assumptions used in constructing their geometries.	The boundary lines and remediation areas included in the draft EE/CA and Data Report will be developed consistent with the Draft FS procedures. A description of these procedures will be included in the draft report.	The response is acceptable with the following qualifying text. EPA reiterates that uncertainties associated with contaminant distribution and heterogeneity of the sediments must be considered in the development of remediation areas and that all assumptions used in the development of remediation areas should be appropriately justified and documented.
7	The area just offshore of the 2005 Gasco removal and capping area shows up as a shoreward indentation in the boundary lines on several figures. This seems to be caused by the lack of data points in that area rather than clear information that the area is uncontaminated. NW Natural and Siltronic Corporation are asked to carefully consider the basis of this delineation as part of the Draft EE/CA.	All boundary lines and remediation areas identified in the draft EE/CA and Data Report will be carefully developed based on available data density and the delineation methods will be described in detail.	Response is acceptable.

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8	The Draft EE/CA must fully integrate the riverbank, within the specified project limits, into the remedial considerations. The riverbank must be fully incorporated into the data compilation, screening, principal threat/hot spot evaluation, and evaluation of remedial technologies and alternatives.	The draft EE/CA and Data Report will be prepared in accordance with the riverbank integration requirements detailed in the SOW.	Response is acceptable.
9	The Draft EE/CA must fully consider the function and impact of the upland hydraulic control and containment (HC&C) system on the sediment remediation project. The Draft EE/CA will be considered incomplete unless the HC&C system is fully incorporated into the document.	The draft EE/CA and Data Report will be developed with full consideration of the HC&C system in order to design an effective long-term remedy that minimizes the potential for recontamination of the riverbank and sediments from future upland groundwater migration.	Response is acceptable.
	Specific Comments		
1	Figure 10- *Summary of LOEs Used for EE/CA Alternatives Development- Reduced Remedial Footprint*: it is unclear why the benthic risk area does not include location DGS-01 (off shore of the Gasco/U.S. Moorings boundary) and surrounding areas. This area needs to be considered as noted in General Comment 2.	As detailed during the EE/CA technical briefing, the benthic risk area was identified consistent with the Portland Harbor FS procedures, which include a number of lines of evidence (LOEs) including both chemical and biological endpoints. As shown in Figure 9 of the Technical Briefing, evaluation of these LOEs showed that the modeled results (maximum probability and mean quotient) disagreed and the biological testing resulted in a no hit designation so this sampling station was excluded from the benthic risk area.	Response is acceptable.
2	NW Natural and Siltronic Corporation may need to adjust the boundaries of the remediation based on adjustments to the benthic risk model mean quotients currently being considered as part of the Portland Harbor RI/FS process. NW Natural and Siltronic Corporation shall document the date of the mean quotient calculations in the Draft EE/CA.	As detailed in the SOW, NW Natural and Siltronic understand that the draft EE/CA and Data Report and subsequent design deliverables may need to be adjusted over time to ensure consistency with the Portland Harbor RI/FS process.	Response is acceptable.
3	Figure II- *PH RAL Depth of Impact Exceedances*: the use of a transition zone water hazard quotient greater than 100 (TZW HQ>100) is problematic without consensus of the agencies and trustees. NW Natural and Siltronic Corporation are encouraged to develop an alternative methodology and criteria that: 1) addresses potential risks associated with this pathway to human health and the environment; and 2) does not rely on a comparison to a HQ of 100.	The use of TZW HQ>100 is consistent with the TZW HQ that is currently being used in the Portland Harbor FS. Consistent with the response to Specific Comment 2, NW Natural and Siltronic understand that this HQ may need to be revised in subsequent deliverables to ensure consistency with the Portland Harbor FS process.	The response is acceptable with the following qualifying text. The Draft Final Baseline Ecological Risk Assessment (BERA) evaluates risk associated with transition zone water (TZW) and defines any contaminant with HQ ≥ 1 as posing potentially unacceptable risk. Although the July 22, 2011 Risk Management Recommendations document developed by the Lower Willamette Group recommends "that only those TZW COPCs with HQ ≥ 100 be considered as COCs to develop and evaluate remedial alternatives that are protective of ecological resources" this recommendation has not been endorsed by EPA.